

ENVIRONMENTAL CONSULTING & MANAGEMENT  
**ROUX ASSOCIATES INC**



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December 13, 2016

Mr. Mike Cirian, P.E.  
United States Environmental Protection Agency  
108 East 9th Street  
Libby, Montana 59923

Re: Request for Approval to Utilize Borrow Pit Soil for Backfill  
Columbia Falls Aluminum Company, Columbia Falls, Montana

Dear Mr. Cirian:

Roux Associates, Inc. (Roux Associates), on behalf of Columbia Falls Aluminum Company (CFAC), has prepared this letter to describe the test pit and soil sampling activities performed in the Borrow Pit Area as part of the Phase I Site Characterization, summarize the results of those activities, and to request concurrence from the United States Environmental Protection Agency (USEPA) for CFAC to use soil from the Borrow Pit Area as fill material for the ongoing demolition activities at the CFAC Site.

In August 2016, seven test pits were completed to approximately 12 feet below land surface (ft-bls) within the Borrow Pit Area to evaluate soil quality conditions within the Borrow Pit Area. The Borrow Pit Area extent is presented as Figure 1. The test pits were completed utilizing an excavator operated by a subcontractor to Cascade Drilling under the oversight of Roux Associates personnel. The test pits were completed and soil samples were collected from each test pit location in accordance with Sampling and Analysis Plan (SAP) Modification #6.

At each test pit location, soil samples were collected from three depth intervals including one surface soil sample (0 to 0.5 ft-bls), one shallow soil sample (2 to 4 ft-bls), and one deeper sample from 10-12 ft-bls. Samples from the surface and shallow intervals were collected from the sidewall using hand tools while the deeper sample was collected directly from the excavator bucket. Twenty-one soil samples were collected and analyzed for the parameters outlined in the SAP.

Soil analytical data for the fifteen samples collected from the shallow and deeper intervals within the seven test pits completed across the Borrow Pit Area are summarized in the attached Tables 1 through 5. Surface soil sample results are not included with this letter because surface soil will not be utilized for backfill at the Site in accordance with the CFAC Borrow Pit Open Cut Permit filed with the Montana Department of Environmental Quality (MDEQ) (Permit #2724, October 29, 2015). Surface soil sample results will be summarized with all Phase I Site Characterization sample results in the Phase I Site Characterization Data Summary Report.

Analytical data for soils proposed to be utilized for backfill were compared to USEPA Residential Regional Screening Levels (RSLs) and Industrial RSLs (May 2016). Table 6 provides a summary of the frequency of exceedances of USEPA RSLs for each soil parameter that was analyzed. The frequency of exceedance data indicates the following about the Borrow Pit Area soil conditions:

- No detections of volatile organic compounds (VOCs) or polychlorinated biphenyls (PCBs) in shallow or deeper soil samples.
- Limited detections of semi-volatile organic compounds (SVOCs), specifically polycyclic aromatic hydrocarbons (PAHs), in shallow and deeper soil, but detections did not exceed USEPA Residential RSLs or USEPA Industrial RSLs.
- Limited detections of cyanide in shallow and deeper soil, but detections did not exceed USEPA Residential RSLs or USEPA Industrial RSLs.
- Fluoride was detected in all shallow and deeper soil samples, but detections did not exceed USEPA Residential RSLs or USEPA Industrial RSLs.
- Metals were detected in each soil sample collected from the Borrow Area Pit. Concentrations of aluminum, arsenic, cobalt, iron, and manganese exceeded USEPA Residential RSLs in shallow and deeper soil. Arsenic concentrations exceeded the USEPA Industrial RSL at 12 sample locations in both shallow and deeper soil.

Overall, these data indicate that in all samples taken from the Borrow Pit Area, only arsenic exceeds USEPA Industrial RSLs. Based upon review of the historical Site information and aerial photographs previously submitted to USEPA with the Remedial Investigation Work Plan, no industrial Site operations were conducted within the Borrow Pit Area. Therefore, the metals with concentrations exceeding USEPA RSLs are most likely attributable to background conditions normally observed in Montana soils. In order to validate this attribution, Roux Associates compared the analytical results for metals exceeding USEPA Residential RSLs from the Borrow Pit Area to the Background Threshold Values (BT<sub>V</sub>) for metals and the mean metals concentrations for bulk soil samples reported in the Montana Background Soil Investigation (MBSI) Report (Hydrometrics, Inc., 2013), prepared for MDEQ. Additionally, the mean metals concentrations from the Borrow Pit Area were compared to the mean metals concentrations from soils collected in the Background Area as part of the Phase I Site Characterization. Background soil sample results will be summarized with all Phase I Site Characterization sample results in the Phase I Site Characterization Data Summary Report. A comparison of these analytical data is provided in the below table:

Analytical Parameter	Phase I Borrow Pit Area Mean (mg/kg)	Phase I Background Area Mean (mg/kg)	MBSI Background Threshold Value (mg/kg)	MBSI Mean (mg/kg)
Aluminum	9,287	12,981	25,941	15,500
Arsenic	4.48	4.49	22.5	11.4
Cobalt	4.4	5.3	10.0	7.3
Iron	11,940	13,732	24,400	18,200
Manganese	339	402	880	508

The comparison of the above data sets show that the concentrations measured in the Borrow Pit Area are similar to or less than concentrations within Background Area at the Site and the background concentrations for the State of Montana. These findings confirm that the concentrations of metals exceeding USEPA RSLs are attributable to natural conditions that are typical of Montana soils.

Overall, the results of the Borrow Pit Area soil sampling support that the concentrations observed in the Borrow Pit Area from 2-12 ft-bls are below USEPA Residential and Industrial RSLs with the exception of the five naturally occurring metals discussed above. Therefore, Roux Associates respectfully requests that based on the analytical results, the soil from the Borrow Pit Area be approved for use as fill material as part of the ongoing Site demolition activities being performed by Calbag Resources, LLC.

Should there be any questions or comments on this submission, please do not hesitate to contact me at (631) 232-2600.

Sincerely,

ROUX ASSOCIATES, INC.



Michael Ritorto  
Principal Hydrogeologist/  
RI Manager

Attachment: Figure 1 – Borrow Pit Area Sampling Locations  
Tables 1 – 6 – Borrow Pit Area Analytical Results

cc: John Stroiazzo, Glencore  
Steve Wright, Columbia Falls Aluminum Company  
Lisa DeWitt, Montana Department of Environmental Quality  
Andrew Baris, Roux Associates

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Parameter	Sample Location			CFTP-17	CFTP-17	CFTP-18	CFTP-18
	Sample Date			25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016
	Sample Depth			10 - 12	2 - 4	10 - 12	2 - 4
	Sample Designation			CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12	CFTP-18-SO-2-4
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit				
1,1,1-Trichloroethane	810	3600	mg/kg	0.00041 U	0.00038 U	0.00033 U	0.0003 U
1,1,2,2-Tetrachloroethane	0.6	2.7	mg/kg	0.00018 U	0.00017 U	0.00015 U	0.00013 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000	17000	mg/kg	0.00048 U	0.00044 U	0.00039 U	0.00035 U
1,1,2-Trichloroethane	0.15	0.63	mg/kg	0.0003 U	0.00028 U	0.00025 U	0.00022 U
1,1-Dichloroethane	3.6	16	mg/kg	0.00037 U	0.00034 U	0.0003 U	0.00027 U
1,1-Dichloroethene	23	100	mg/kg	0.00044 U	0.00041 U	0.00036 U	0.00032 U
1,2,3-Trichlorobenzene	6.3	93	mg/kg	0.00012 U	0.00011 U	0.000097	0.000087
1,2,4-Trichlorobenzene	5.8	26	mg/kg	0.00035 U	0.00032 U	0.00028 U	0.00025 U
1,2-Dibromo-3-Chloropropane	0.0053	0.064	mg/kg	0.00051 U	0.00047 U	0.00041 U	0.00037 U
1,2-Dichlorobenzene	180	930	mg/kg	0.00015 U	0.00014 U	0.00012 U	0.00011 U
1,2-Dichloroethane	0.46	2	mg/kg	0.00012 U	0.00011 U	0.000097	0.000087
1,2-Dichloropropane	1	4.4	mg/kg	0.00018 U	0.00017 U	0.00015 U	0.00013 U
1,3-Dichlorobenzene	--	--	mg/kg	0.00013 U	0.00012 U	0.00011 U	0.000094
1,4-Dichlorobenzene	2.6	11	mg/kg	0.00014 U	0.00013 U	0.00011 U	0.0001 U
2-Butanone (MEK)	2700	19000	mg/kg	0.0031 J	0.0029 J	0.00068 U	0.0023 J
2-Hexanone	20	130	mg/kg	0.001 U	0.00095 U	0.00082 U	0.00074 U
4-Methyl-2-pentanone (MIBK)	3300	14000	mg/kg	0.0024 U	0.0022 U	0.0019 U	0.0017 U
Acetone	6100	67000	mg/kg	0.033	0.038	0.017	0.035

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location Sample Date Sample Depth Sample Designation	CFTP-17	CFTP-17	CFTP-18	CFTP-18		
		25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016		
		10 - 12	2 - 4	10 - 12	2 - 4		
		CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12	CFTP-18-SO-2-4		
Benzene	1.2	5.1	mg/kg	0.00022 U	0.0002 U	0.00018 U	0.00016 U
Bromoform	19	86	mg/kg	0.00014 U	0.00013 U	0.00011 U	0.0001 U
Bromomethane	0.68	3	mg/kg	0.00035 U	0.00032 U	0.00028 U	0.00025 U
Carbon disulfide	77	350	mg/kg	0.00047 U	0.00043 U	0.00038 U	0.00034 U
Carbon tetrachloride	0.65	2.9	mg/kg	0.00047 U	0.00043 U	0.00038 U	0.00034 U
Chlorobenzene	28	130	mg/kg	0.00015 U	0.00014 U	0.00012 U	0.00011 U
Chlorobromomethane	15	63	mg/kg	0.00018 U	0.00017 U	0.00015 U	0.00013 U
Chlorodibromomethane	8.3	39	mg/kg	0.00016 U	0.00015 U	0.00013 U	0.00012 U
Chloroethane	1400	5700	mg/kg	0.00038 U	0.00035 U	0.00031 U	0.00028 U
Chloroform	0.32	1.4	mg/kg	0.00023 U	0.00021 U	0.00018 U	0.00017 U
Chloromethane	11	46	mg/kg	0.00041 U	0.00038 U	0.00033 U	0.0003 U
cis-1,2-Dichloroethene	16	230	mg/kg	0.00024 U	0.00022 U	0.00019 U	0.00017 U
cis-1,3-Dichloropropene	--	--	mg/kg	0.00016 U	0.00015 U	0.00013 U	0.00012 U
Cyclohexane	650	2700	mg/kg	0.0005 U	0.00046 U	0.0004 U	0.00036 U
Dichlorobromomethane	0.29	1.3	mg/kg	0.00041 U	0.00038 U	0.00033 U	0.0003 U
Dichlorodifluoromethane	8.7	37	mg/kg	0.00035 U	0.00032 U	0.00028 U	0.00025 U
Ethylbenzene	5.8	25	mg/kg	0.0002 U	0.00018 U	0.00016 U	0.00014 U
Ethylene Dibromide	0.036	0.16	mg/kg	0.00013 U	0.00012 U	0.00011 U	0.000094
Isopropylbenzene	190	990	mg/kg	0.00018 U	0.00017 U	0.00015 U	0.00013 U
Methyl acetate	7800	120000	mg/kg	0.00098 U	0.0082	0.00079 U	0.00071 U
Methyl tert-butyl ether	47	210	mg/kg	0.00018 U	0.00017 U	0.00015 U	0.00013 U
Methylcyclohexane	--	--	mg/kg	0.00054 U	0.0005 U	0.00044 U	0.00039 U
Methylene Chloride	35	320	mg/kg	0.00035 U	0.00032 U	0.00028 U	0.00025 U
m-Xylene & p-Xylene	56	240	mg/kg	0.00012 U	0.00011 U	0.000097	0.000087

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	Sample Location Sample Date Sample Depth Sample Designation	CFTP-17	CFTP-17	CFTP-18	CFTP-18
		25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016
		10 - 12	2 - 4	10 - 12	2 - 4
		CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12	CFTP-18-SO-2-4
o-Xylene	65	280	mg/kg	0.00017 U	0.00016 U
Styrene	600	3500	mg/kg	0.00016 U	0.00015 U
Tetrachloroethene	8.1	39	mg/kg	0.0003 U	0.00028 U
Toluene	490	4700	mg/kg	0.00021 U	0.00019 U
trans-1,2-Dichloroethene	160	2300	mg/kg	0.00042 U	0.00039 U
trans-1,3-Dichloropropene	--	--	mg/kg	0.00011 U	0.0001 U
Trichloroethene	0.41	1.9	mg/kg	0.00028 U	0.00026 U
Trichlorofluoromethane	2300	35000	mg/kg	0.00037 U	0.00034 U
Vinyl chloride	0.059	1.7	mg/kg	0.00042 U	0.00039 U
				0.00034 U	0.00031 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Sample Location Sample Date Sample Depth Sample Designation	CFTP-19 25 Aug 2016 10 - 12 CFTP-19-SO-10-12	CFTP-19 25 Aug 2016 2 - 4 CFTP-19-SO-2-4	CFTP-20 25 Aug 2016 10 - 12 CFTP-20-SO-10-12	CFTP-20 25 Aug 2016 2 - 4 CFTP-20-SO-2-4
				Unit			
1,1,1-Trichloroethane	810	3600	mg/kg	0.00044 U	0.0005 U	0.0003 U	0.00031 U
1,1,2,2-Tetrachloroethane	0.6	2.7	mg/kg	0.0002 U	0.00023 U	0.00013 U	0.00014 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000	17000	mg/kg	0.00051 U	0.00058 U	0.00035 U	0.00036 U
1,1,2-Trichloroethane	0.15	0.63	mg/kg	0.00032 U	0.00037 U	0.00022 U	0.00023 U
1,1-Dichloroethane	3.6	16	mg/kg	0.00039 U	0.00045 U	0.00027 U	0.00028 U
1,1-Dichloroethene	23	100	mg/kg	0.00047 U	0.00054 U	0.00032 U	0.00033 U
1,2,3-Trichlorobenzene	6.3	93	mg/kg	0.00013 U	0.00015 U	0.000087	0.000089
1,2,4-Trichlorobenzene	5.8	26	mg/kg	0.00037 U	0.00043 U	0.00025 U	0.00026 U
1,2-Dibromo-3-Chloropropane	0.0053	0.064	mg/kg	0.00054 U	0.00062 U	0.00037 U	0.00038 U
1,2-Dichlorobenzene	180	930	mg/kg	0.00016 U	0.00019 U	0.00011 U	0.00011 U
1,2-Dichloroethane	0.46	2	mg/kg	0.00013 U	0.00015 U	0.000087	0.000089
1,2-Dichloropropane	1	4.4	mg/kg	0.0002 U	0.00023 U	0.00013 U	0.00014 U
1,3-Dichlorobenzene	--	--	mg/kg	0.00014 U	0.00016 U	0.000095	0.000097
1,4-Dichlorobenzene	2.6	11	mg/kg	0.00015 U	0.00017 U	0.0001 U	0.00011 U
2-Butanone (MEK)	2700	19000	mg/kg	0.00089 U	0.001 U	0.00061 U	0.00062 U
2-Hexanone	20	130	mg/kg	0.0011 U	0.0012 U	0.00074 U	0.00076 U
4-Methyl-2-pentanone (MIBK)	3300	14000	mg/kg	0.0026 U	0.0029 U	0.0018 U	0.0018 U
Acetone	6100	67000	mg/kg	0.0083	0.042	0.0097	0.028

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location		CFTP-19-SO-10-12	CFTP-19	CFTP-19	CFTP-20	CFTP-20
	Sample Date	Sample Depth		25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016
		10 - 12		2 - 4	CFTP-19-SO-2-4	CFTP-20-SO-10-12	CFTP-20-SO-2-4
		Sample Designation					
Benzene	1.2	5.1	mg/kg	0.0011 J	0.00027 U	0.00016 U	0.00016 U
Bromoform	19	86	mg/kg	0.00015 U	0.00017 U	0.0001 U	0.00011 U
Bromomethane	0.68	3	mg/kg	0.00037 U	0.00043 U	0.00025 U	0.00026 U
Carbon disulfide	77	350	mg/kg	0.0005 U	0.00057 U	0.00034 U	0.00035 U
Carbon tetrachloride	0.65	2.9	mg/kg	0.0005 U	0.00057 U	0.00034 U	0.00035 U
Chlorobenzene	28	130	mg/kg	0.00016 U	0.00019 U	0.00011 U	0.00011 U
Chlorobromomethane	15	63	mg/kg	0.0002 U	0.00023 U	0.00013 U	0.00014 U
Chlorodibromomethane	8.3	39	mg/kg	0.00017 U	0.0002 U	0.00012 U	0.00012 U
Chloroethane	1400	5700	mg/kg	0.0004 U	0.00046 U	0.00028 U	0.00028 U
Chloroform	0.32	1.4	mg/kg	0.00024 U	0.00028 U	0.00017 U	0.00017 U
Chloromethane	11	46	mg/kg	0.00044 U	0.0005 U	0.0003 U	0.00031 U
cis-1,2-Dichloroethene	16	230	mg/kg	0.00025 U	0.00029 U	0.00017 U	0.00018 U
cis-1,3-Dichloropropene	--	--	mg/kg	0.00017 U	0.0002 U	0.00012 U	0.00012 U
Cyclohexane	650	2700	mg/kg	0.0017	0.00061 U	0.00036 U	0.00037 U
Dichlorobromomethane	0.29	1.3	mg/kg	0.00044 U	0.0005 U	0.0003 U	0.00031 U
Dichlorodifluoromethane	8.7	37	mg/kg	0.00037 U	0.00043 U	0.00025 U	0.00026 U
Ethylbenzene	5.8	25	mg/kg	0.00054 J	0.00024 U	0.00014 U	0.00015 U
Ethylene Dibromide	0.036	0.16	mg/kg	0.00014 U	0.00016 U	0.000095	0.000097
Isopropylbenzene	190	990	mg/kg	0.0002 U	0.00023 U	0.00013 U	0.00014 U
Methyl acetate	7800	120000	mg/kg	0.001 U	0.0059 J	0.00071 U	0.00073 U
Methyl tert-butyl ether	47	210	mg/kg	0.0002 U	0.00023 U	0.00013 U	0.00014 U
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Methylene Chloride	35	320	mg/kg	0.00037 U	0.0019	0.00025 U	0.00026 U
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	Sample Location Sample Date Sample Depth Sample Designation	CFTP-19	CFTP-19	CFTP-20	CFTP-20
		25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016
		10 - 12	2 - 4	10 - 12	2 - 4
		CFTP-19-SO-10-12	CFTP-19-SO-2-4	CFTP-20-SO-10-12	CFTP-20-SO-2-4
o-Xylene	65	280	mg/kg	0.0008 J	0.00021 U
Styrene	600	3500	mg/kg	0.00017 U	0.0002 U
Tetrachloroethene	8.1	39	mg/kg	0.00032 U	0.00037 U
Toluene	490	4700	mg/kg	0.0031	0.00025 U
trans-1,2-Dichloroethene	160	2300	mg/kg	0.00045 U	0.00052 U
trans-1,3-Dichloropropene	--	--	mg/kg	0.00012 U	0.00013 U
Trichloroethene	0.41	1.9	mg/kg	0.0003 U	0.00035 U
Trichlorofluoromethane	2300	35000	mg/kg	0.00039 U	0.00045 U
Vinyl chloride	0.059	1.7	mg/kg	0.00045 U	0.00052 U
				0.00031 U	0.00032 U

J - Estimated value

J+ -Estimated High Bias

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U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

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Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Sample Location Sample Date Sample Depth Sample Designation	CFTP-21 25 Aug 2016 10 - 12 CFTP-21-SO-10-12	CFTP-21 25 Aug 2016 2 - 4 CFTP-21-SO-2-4	CFTP-22 25 Aug 2016 10 - 12 CFTP-22-SO-10-12	CFTP-22 25 Aug 2016 2 - 4 CFTP-22-SO-2-4
				Unit			
1,1,1-Trichloroethane	810	3600	mg/kg	0.00034 U	0.00039 U	0.0004 U	0.0004 U
1,1,2,2-Tetrachloroethane	0.6	2.7	mg/kg	0.00015 U	0.00018 U	0.00018 U	0.00018 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000	17000	mg/kg	0.0004 U	0.00046 U	0.00046 U	0.00046 U
1,1,2-Trichloroethane	0.15	0.63	mg/kg	0.00025 U	0.00029 U	0.00029 U	0.00029 U
1,1-Dichloroethane	3.6	16	mg/kg	0.00031 U	0.00035 U	0.00036 U	0.00035 U
1,1-Dichloroethene	23	100	mg/kg	0.00037 U	0.00042 U	0.00043 U	0.00043 U
1,2,3-Trichlorobenzene	6.3	93	mg/kg	0.000099	0.00011 U	0.00012 U	0.00011 U
1,2,4-Trichlorobenzene	5.8	26	mg/kg	0.00029 U	0.00033 U	0.00034 U	0.00033 U
1,2-Dibromo-3-Chloropropane	0.0053	0.064	mg/kg	0.00042 U	0.00049 U	0.00049 U	0.00049 U
1,2-Dichlorobenzene	180	930	mg/kg	0.00013 U	0.00014 U	0.00015 U	0.00015 U
1,2-Dichloroethane	0.46	2	mg/kg	0.000099	0.00011 U	0.00012 U	0.00011 U
1,2-Dichloropropane	1	4.4	mg/kg	0.00015 U	0.00018 U	0.00018 U	0.00018 U
1,3-Dichlorobenzene	--	--	mg/kg	0.00011 U	0.00012 U	0.00013 U	0.00012 U
1,4-Dichlorobenzene	2.6	11	mg/kg	0.00012 U	0.00013 U	0.00014 U	0.00014 U
2-Butanone (MEK)	2700	19000	mg/kg	0.002 J	0.0048 J	0.00081 U	0.0008 U
2-Hexanone	20	130	mg/kg	0.00085 U	0.00097 U	0.00099 U	0.00098 U
4-Methyl-2-pentanone (MIBK)	3300	14000	mg/kg	0.002 U	0.0023 U	0.0023 U	0.0023 U
Acetone	6100	67000	mg/kg	0.02	0.086	0.014	0.033

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location		CFTP-21 25 Aug 2016 10 - 12 CFTP-21-SO-10-12	CFTP-21 25 Aug 2016 2 - 4 CFTP-21-SO-2-4	CFTP-22 25 Aug 2016 10 - 12 CFTP-22-SO-10-12	CFTP-22 25 Aug 2016 2 - 4 CFTP-22-SO-2-4				
	Sample Date									
	Sample Depth									
	Sample Designation									
Benzene	1.2	5.1	mg/kg	0.00018 U	0.00021 U	0.00021 U				
Bromoform	19	86	mg/kg	0.00012 U	0.00013 U	0.00014 U				
Bromomethane	0.68	3	mg/kg	0.00029 U	0.00033 U	0.00034 U				
Carbon disulfide	77	350	mg/kg	0.00039 U	0.00045 U	0.00045 U				
Carbon tetrachloride	0.65	2.9	mg/kg	0.00039 U	0.00045 U	0.00045 U				
Chlorobenzene	28	130	mg/kg	0.00013 U	0.00014 U	0.00015 U				
Chlorobromomethane	15	63	mg/kg	0.00015 U	0.00018 U	0.00018 U				
Chlorodibromomethane	8.3	39	mg/kg	0.00014 U	0.00016 U	0.00016 U				
Chloroethane	1400	5700	mg/kg	0.00032 U	0.00036 U	0.00037 U				
Chloroform	0.32	1.4	mg/kg	0.00019 U	0.00022 U	0.00022 U				
Chloromethane	11	46	mg/kg	0.00034 U	0.00039 U	0.0004 U				
cis-1,2-Dichloroethene	16	230	mg/kg	0.0002 U	0.00023 U	0.00023 U				
cis-1,3-Dichloropropene	--	--	mg/kg	0.00014 U	0.00016 U	0.00016 U				
Cyclohexane	650	2700	mg/kg	0.00042 U	0.00048 U	0.00048 U				
Dichlorobromomethane	0.29	1.3	mg/kg	0.00034 U	0.00039 U	0.0004 U				
Dichlorodifluoromethane	8.7	37	mg/kg	0.00029 U	0.00033 U	0.00034 U				
Ethylbenzene	5.8	25	mg/kg	0.00016 U	0.00019 U	0.00019 U				
Ethylene Dibromide	0.036	0.16	mg/kg	0.00011 U	0.00012 U	0.00013 U				
Isopropylbenzene	190	990	mg/kg	0.00015 U	0.00018 U	0.00018 U				
Methyl acetate	7800	120000	mg/kg	0.00081 U	0.00093 U	0.00095 U				
Methyl tert-butyl ether	47	210	mg/kg	0.00015 U	0.00018 U	0.00018 U				
Methylcyclohexane	--	--	mg/kg	0.00045 U	0.00052 U	0.00053 U				
Methylene Chloride	35	320	mg/kg	0.00029 U	0.00033 U	0.00034 U				
m-Xylene & p-Xylene	56	240	mg/kg	0.000099	0.00011 U	0.00012 U				
						0.00011 U				

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location Sample Date Sample Depth Sample Designation	CFTP-21	CFTP-21	CFTP-22	CFTP-22
		25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016
		10 - 12	2 - 4	10 - 12	2 - 4
		CFTP-21-SO-10-12	CFTP-21-SO-2-4	CFTP-22-SO-10-12	CFTP-22-SO-2-4
o-Xylene	65	280	mg/kg	0.00014 U	0.00017 U
Styrene	600	3500	mg/kg	0.00014 U	0.00016 U
Tetrachloroethene	8.1	39	mg/kg	0.00025 U	0.00029 U
Toluene	490	4700	mg/kg	0.00017 U	0.0002 U
trans-1,2-Dichloroethene	160	2300	mg/kg	0.00035 U	0.0004 U
trans-1,3-Dichloropropene	--	--	mg/kg	0.00009	0.0001 U
Trichloroethene	0.41	1.9	mg/kg	0.00023 U	0.00027 U
Trichlorofluoromethane	2300	35000	mg/kg	0.00031 U	0.00035 U
Vinyl chloride	0.059	1.7	mg/kg	0.00035 U	0.00041 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Sample Location Sample Date Sample Depth Sample Designation	CFTP-23 26 Aug 2016 10 - 12 CFTP-23-SO-10-12	CFTP-23 26 Aug 2016 2 - 4 CFTP-23-SO-2-4	CFTP-23 26 Aug 2016 2 - 4 CFTP-DUP24-SO
				Unit		
1,1,1-Trichloroethane	810	3600	mg/kg	0.00035 U	0.0003 U	0.00031 U
1,1,2,2-Tetrachloroethane	0.6	2.7	mg/kg	0.00016 U	0.00013 U	0.00014 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000	17000	mg/kg	0.00041 U	0.00035 U	0.00035 U
1,1,2-Trichloroethane	0.15	0.63	mg/kg	0.00026 U	0.00022 U	0.00023 U
1,1-Dichloroethane	3.6	16	mg/kg	0.00031 U	0.00027 U	0.00027 U
1,1-Dichloroethene	23	100	mg/kg	0.00038 U	0.00033 U	0.00033 U
1,2,3-Trichlorobenzene	6.3	93	mg/kg	0.0001 U	0.000087	0.000089
1,2,4-Trichlorobenzene	5.8	26	mg/kg	0.00029 U	0.00025 U	0.00026 U
1,2-Dibromo-3-Chloropropane	0.0053	0.064	mg/kg	0.00043 U	0.00037 U	0.00038 U
1,2-Dichlorobenzene	180	930	mg/kg	0.00013 U	0.00011 U	0.00011 U
1,2-Dichloroethane	0.46	2	mg/kg	0.0001 U	0.000087	0.000089
1,2-Dichloropropane	1	4.4	mg/kg	0.00016 U	0.00013 U	0.00014 U
1,3-Dichlorobenzene	--	--	mg/kg	0.00011 U	0.000095	0.000097
1,4-Dichlorobenzene	2.6	11	mg/kg	0.00012 U	0.0001 U	0.0001 U
2-Butanone (MEK)	2700	19000	mg/kg	0.0017 J	0.0027 J	0.003 J
2-Hexanone	20	130	mg/kg	0.00087 U	0.00075 U	0.00076 U
4-Methyl-2-pentanone (MIBK)	3300	14000	mg/kg	0.002 U	0.0018 U	0.0018 U
Acetone	6100	67000	mg/kg	0.01	0.041	0.062

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location		CFTP-23	CFTP-23	CFTP-23	
	Sample Date	26 Aug 2016	26 Aug 2016	26 Aug 2016		
		10 - 12	2 - 4	2 - 4		
		CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO		
Benzene	1.2	5.1	mg/kg	0.00018 U	0.00016 U	0.00016 U
Bromoform	19	86	mg/kg	0.00012 U	0.0001 U	0.0001 U
Bromomethane	0.68	3	mg/kg	0.00029 U	0.00025 U	0.00026 U
Carbon disulfide	77	350	mg/kg	0.0004 U	0.00034 U	0.00035 U
Carbon tetrachloride	0.65	2.9	mg/kg	0.0004 U	0.00034 U	0.00035 U
Chlorobenzene	28	130	mg/kg	0.00013 U	0.00011 U	0.00011 U
Chlorobromomethane	15	63	mg/kg	0.00016 U	0.00013 U	0.00014 U
Chlorodibromomethane	8.3	39	mg/kg	0.00014 U	0.00012 U	0.00012 U
Chloroethane	1400	5700	mg/kg	0.00032 U	0.00028 U	0.00028 U
Chloroform	0.32	1.4	mg/kg	0.00019 U	0.00017 U	0.00017 U
Chloromethane	11	46	mg/kg	0.00035 U	0.0003 U	0.00031 U
cis-1,2-Dichloroethene	16	230	mg/kg	0.0002 U	0.00017 U	0.00018 U
cis-1,3-Dichloropropene	--	--	mg/kg	0.00014 U	0.00012 U	0.00012 U
Cyclohexane	650	2700	mg/kg	0.00042 U	0.00037 U	0.00037 U
Dichlorobromomethane	0.29	1.3	mg/kg	0.00035 U	0.0003 U	0.00031 U
Dichlorodifluoromethane	8.7	37	mg/kg	0.00029 U	0.00025 U	0.00026 U
Ethylbenzene	5.8	25	mg/kg	0.00017 U	0.00014 U	0.00015 U
Ethylene Dibromide	0.036	0.16	mg/kg	0.00011 U	0.000095	0.000097
Isopropylbenzene	190	990	mg/kg	0.00016 U	0.00013 U	0.00014 U
Methyl acetate	7800	120000	mg/kg	0.00083 U	0.0014 J	0.0016 J
Methyl tert-butyl ether	47	210	mg/kg	0.00016 U	0.00013 U	0.00014 U
Methylcyclohexane	--	--	mg/kg	0.0005 J	0.0004 U	0.0004 U
Methylene Chloride	35	320	mg/kg	0.00029 U	0.00025 U	0.00026 U
m-Xylene & p-Xylene	56	240	mg/kg	0.0001 U	0.000087	0.000089

**Table 1. Summary of Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location		CFTP-23	CFTP-23	CFTP-23
	Sample Date	26 Aug 2016	26 Aug 2016	26 Aug 2016	
		10 - 12	2 - 4	2 - 4	
		CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO	
o-Xylene	65	280	mg/kg	0.00015 U	0.00013 U
Styrene	600	3500	mg/kg	0.00014 U	0.00012 U
Tetrachloroethene	8.1	39	mg/kg	0.00026 U	0.00022 U
Toluene	490	4700	mg/kg	0.00047 J	0.00015 U
trans-1,2-Dichloroethene	160	2300	mg/kg	0.00036 U	0.00031 U
trans-1,3-Dichloropropene	--	--	mg/kg	0.000092	0.000079
Trichloroethene	0.41	1.9	mg/kg	0.00024 U	0.00021 U
Trichlorofluoromethane	2300	35000	mg/kg	0.00031 U	0.00027 U
Vinyl chloride	0.059	1.7	mg/kg	0.00036 U	0.00031 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location				CFTP-17 25 Aug 2016 10 - 12 CFTP-17-SO-10-12	CFTP-17 25 Aug 2016 2 - 4 CFTP-17-SO-2-4	CFTP-18 26 Aug 2016 10 - 12 CFTP-18-SO-10-12	CFTP-18 26 Aug 2016 2 - 4 CFTP-18-SO-2-4	CFTP-19 25 Aug 2016 10 - 12 CFTP-19-SO-10-12
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
1,1'-Biphenyl	4.7	20	mg/kg	0.031 U	0.032 U	0.031 U	0.033 U	0.03 U
1,2,4,5-Tetrachlorobenzene	2.3	35	mg/kg	0.027 U	0.028 U	0.027 U	0.029 U	0.026 U
1,4-Dioxane	5.3	24	mg/kg	0.097 U	0.1 U	0.099 U	0.1 U	0.094 U
2,2'-oxybis[1-chloropropane]	310	4700	mg/kg	0.015 U	0.015 U	0.015 U	0.016 U	0.014 U
2,3,4,6-Tetrachlorophenol	190	2500	mg/kg	0.034 U	0.035 U	0.035 U	0.036 U	0.033 U
2,4,5-Trichlorophenol	630	8200	mg/kg	0.036 U	0.037 U	0.037 U	0.038 U	0.035 U
2,4,6-Trichlorophenol	6.3	82	mg/kg	0.01 U	0.011 U	0.01 U	0.011 U	0.01 U
2,4-Dichlorophenol	19	250	mg/kg	0.0086 U	0.0088 U	0.0087 U	0.0091 U	0.0083 U
2,4-Dimethylphenol	130	1600	mg/kg	0.08 U	0.082 U	0.081 U	0.085 U	0.077 U
2,4-Dinitrophenol	13	160	mg/kg	0.27 UJ	0.28 UJ	0.28 UJ	0.29 UJ	0.26 UJ
2,4-Dinitrotoluene	1.7	7.4	mg/kg	0.014 U	0.015 U	0.015 U	0.015 U	0.014 U
2,6-Dinitrotoluene	0.36	1.5	mg/kg	0.019 U	0.02 U	0.02 U	0.021 U	0.019 U
2-Chloronaphthalene	480	6000	mg/kg	0.0082 U	0.0085 U	0.0084 U	0.0087 U	0.0079 U
2-Chlorophenol	39	580	mg/kg	0.0092 U	0.0095 U	0.0094 U	0.0098 U	0.0089 U
2-Methylnaphthalene	24	300	mg/kg	0.008 U	0.0082 U	0.0081 U	0.0085 U	0.0077 U
2-Methylphenol	320	4100	mg/kg	0.016 U	0.016 U	0.016 U	0.017 U	0.015 U
2-Nitroaniline	63	800	mg/kg	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
2-Nitrophenol	--	--	mg/kg	0.012 U	0.013 U	0.012 U	0.013 U	0.012 U
3 & 4 Methylphenol	--	--	mg/kg	0.0097 U	0.0099 U	0.0098 U	0.01 U	0.0093 U
3,3'-Dichlorobenzidine	1.2	5.1	mg/kg	0.041 U	0.042 U	0.041 U	0.043 U	0.039 U
3-Nitroaniline	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.01 U
4,6-Dinitro-2-methylphenol	0.51	6.6	mg/kg	0.097 U	0.1 U	0.098 U	0.1 U	0.093 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.011 U	0.012 U	0.012 U	0.012 U	0.011 U
4-Chloro-3-methylphenol	630	8200	mg/kg	0.016 U	0.016 U	0.016 U	0.017 U	0.015 U
4-Chloroaniline	2.7	11	mg/kg	0.0093 U	0.0096 U	0.0095 U	0.0099 U	0.009 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.012 U	0.01 U
4-Nitroaniline	25	110	mg/kg	0.014 U	0.014 U	0.014 U	0.015 U	0.013 U

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location	Sample Date	Sample Depth	CFTP-17	CFTP-17	CFTP-18	CFTP-18	CFTP-19
				25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016	25 Aug 2016
				10 - 12	2 - 4	10 - 12	2 - 4	10 - 12
			Sample Designation	CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12	CFTP-18-SO-2-4	CFTP-19-SO-10-12
4-Nitrophenol	--	--	mg/kg	0.17 U	0.18 U	0.18 U	0.19 U	0.17 U
Acenaphthene	360	4500	mg/kg	0.0088 U	0.009 U	0.0089 U	0.0093 U	0.0085 U
Acenaphthylene	--	--	mg/kg	0.0093 U	0.0096 U	0.0095 U	0.0099 U	0.009 U
Acetophenone	780	12000	mg/kg	0.0079 U	0.0081 U	0.008 U	0.0084 U	0.0076 U
Anthracene	1800	23000	mg/kg	0.034 U	0.035 U	0.035 U	0.037 U	0.033 U
Atrazine	2.4	10	mg/kg	0.016 U	0.017 U	0.016 U	0.017 U	0.016 U
Benzaldehyde	170	820	mg/kg	0.028 U	0.028 U	0.028 U	0.029 U	0.027 U
Benzo[a]anthracene	0.16	2.9	mg/kg	0.03 U	0.031 U	0.031 U	0.032 U	0.029 U
Benzo[a]pyrene	0.016	0.29	mg/kg	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
Benzo[b]fluoranthene	0.16	2.9	mg/kg	0.015 J	0.015 U	0.014 U	0.015 U	0.014 U
Benzo[g,h,i]perylene	--	--	mg/kg	0.021 U	0.021 U	0.021 U	0.022 U	0.02 U
Benzo[k]fluoranthene	1.6	29	mg/kg	0.016 U	0.016 U	0.016 U	0.017 U	0.015 U
Bis(2-chloroethoxy)methane	19	250	mg/kg	0.011 U	0.012 U	0.011 U	0.012 U	0.011 U
Bis(2-chloroethyl)ether	0.23	1	mg/kg	0.0086 U	0.0088 U	0.0087 U	0.0091 U	0.0083 U
Bis(2-ethylhexyl) phthalate	39	160	mg/kg	0.014 U	0.015 U	0.014 U	0.015 U	0.014 U
Butyl benzyl phthalate	290	1200	mg/kg	0.011 U	0.012 U	0.011 U	0.012 U	0.011 U
Caprolactam	3100	40000	mg/kg	0.026 U	0.027 U	0.027 U	0.028 U	0.025 U
Carbazole	--	--	mg/kg	0.009 U	0.0093 U	0.0091 U	0.0096 U	0.0087 U
Chrysene	16	290	mg/kg	0.0099 U	0.01 U	0.01 U	0.01 U	0.0095 U
Dibenz(a,h)anthracene	0.016	0.29	mg/kg	0.019 U	0.019 U	0.019 U	0.02 U	0.018 U
Dibenzofuran	7.3	100	mg/kg	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
Diethyl phthalate	5100	66000	mg/kg	0.01 U	0.011 U	0.01 U	0.011 U	0.01 U
Dimethyl phthalate	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.01 U
Di-n-butyl phthalate	630	8200	mg/kg	0.011 U	0.011 U	0.011 U	0.012 U	0.01 U
Di-n-octyl phthalate	63	820	mg/kg	0.018 U	0.019 U	0.019 U	0.02 U	0.018 U
Fluoranthene	240	3000	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.01 U
Fluorene	240	3000	mg/kg	0.0079 U	0.0081 U	0.008 U	0.0084 U	0.0076 U
Hexachlorobenzene	0.21	0.96	mg/kg	0.015 U	0.015 U	0.015 U	0.016 U	0.014 U
Hexachlorobutadiene	1.2	5.3	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.0098 U
Hexachlorocyclopentadiene	0.18	0.75	mg/kg	0.023 U	0.023 U	0.023 U	0.024 U	0.022 U

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location			CFTP-17	CFTP-17	CFTP-18	CFTP-18	CFTP-19
Sample Date			25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016	25 Aug 2016
Sample Depth			10 - 12	2 - 4	10 - 12	2 - 4	10 - 12
Sample Designation			CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12	CFTP-18-SO-2-4	CFTP-19-SO-10-12
Hexachloroethane	1.8	8	mg/kg	0.013 U	0.014 U	0.013 U	0.014 U
Indeno[1,2,3-cd]pyrene	0.16	2.9	mg/kg	0.024 U	0.025 U	0.025 U	0.026 U
Isophorone	570	2400	mg/kg	0.0078 U	0.008 U	0.0079 U	0.0083 U
Naphthalene	3.8	17	mg/kg	0.0092 U	0.0095 U	0.0094 U	0.0098 U
Nitrobenzene	5.1	22	mg/kg	0.011 U	0.012 U	0.012 U	0.012 U
N-Nitrosodi-n-propylamine	0.078	0.33	mg/kg	0.012 U	0.013 U	0.012 U	0.013 U
N-Nitrosodiphenylamine	110	470	mg/kg	0.033 U	0.034 U	0.033 U	0.035 U
Pentachlorophenol	1	4	mg/kg	0.044 U	0.045 U	0.045 U	0.047 U
Phenanthrene	--	--	mg/kg	0.0097 U	0.0099 U	0.0098 U	0.01 U
Phenol	1900	25000	mg/kg	0.012 U	0.012 U	0.012 U	0.013 U
Pyrene	180	2300	mg/kg	0.016 U	0.017 U	0.017 U	0.016 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location				CFTP-19 25 Aug 2016 2 - 4 CFTP-19-SO-2-4	CFTP-20 25 Aug 2016 10 - 12 CFTP-20-SO-10-12	CFTP-20 25 Aug 2016 2 - 4 CFTP-20-SO-2-4	CFTP-21 25 Aug 2016 10 - 12 CFTP-21-SO-10-12	CFTP-21 25 Aug 2016 2 - 4 CFTP-21-SO-2-4
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
1,1'-Biphenyl	4.7	20	mg/kg	0.032 U	0.03 U	0.031 U	0.03 U	0.031 U
1,2,4,5-Tetrachlorobenzene	2.3	35	mg/kg	0.028 U	0.026 U	0.027 U	0.026 U	0.027 U
1,4-Dioxane	5.3	24	mg/kg	0.099 U	0.093 U	0.097 U	0.093 U	0.096 U
2,2'-oxybis[1-chloropropane]	310	4700	mg/kg	0.015 U	0.014 U	0.015 U	0.014 U	0.015 U
2,3,4,6-Tetrachlorophenol	190	2500	mg/kg	0.035 U	0.033 U	0.034 U	0.033 U	0.034 U
2,4,5-Trichlorophenol	630	8200	mg/kg	0.037 U	0.034 U	0.036 U	0.035 U	0.036 U
2,4,6-Trichlorophenol	6.3	82	mg/kg	0.011 U	0.0099 U	0.01 U	0.0099 U	0.01 U
2,4-Dichlorophenol	19	250	mg/kg	0.0088 U	0.0082 U	0.0086 U	0.0082 U	0.0085 U
2,4-Dimethylphenol	130	1600	mg/kg	0.082 U	0.076 U	0.08 U	0.076 U	0.079 U
2,4-Dinitrophenol	13	160	mg/kg	0.28 UJ	0.26 UJ	0.27 UJ	0.26 UJ	0.27 UJ
2,4-Dinitrotoluene	1.7	7.4	mg/kg	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U
2,6-Dinitrotoluene	0.36	1.5	mg/kg	0.02 U	0.018 U	0.019 U	0.019 U	0.019 U
2-Chloronaphthalene	480	6000	mg/kg	0.0084 U	0.0079 U	0.0082 U	0.0079 U	0.0082 U
2-Chlorophenol	39	580	mg/kg	0.0094 U	0.0088 U	0.0092 U	0.0088 U	0.0091 U
2-Methylnaphthalene	24	300	mg/kg	0.0082 U	0.0077 U	0.008 U	0.0077 U	0.0079 U
2-Methylphenol	320	4100	mg/kg	0.016 U	0.015 U	0.016 U	0.015 U	0.016 U
2-Nitroaniline	63	800	mg/kg	0.012 U	0.011 U	0.012 U	0.011 U	0.012 U
2-Nitrophenol	--	--	mg/kg	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
3 & 4 Methylphenol	--	--	mg/kg	0.0099 U	0.0092 U	0.0097 U	0.0093 U	0.0096 U
3,3'-Dichlorobenzidine	1.2	5.1	mg/kg	0.041 U	0.039 U	0.041 U	0.039 U	0.04 U
3-Nitroaniline	--	--	mg/kg	0.011 U	0.01 U	0.011 U	0.01 U	0.011 U
4,6-Dinitro-2-methylphenol	0.51	6.6	mg/kg	0.099 U	0.092 U	0.097 U	0.093 U	0.096 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
4-Chloro-3-methylphenol	630	8200	mg/kg	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U
4-Chloroaniline	2.7	11	mg/kg	0.0095 U	0.0089 U	0.0093 U	0.0089 U	0.0092 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.011 U	0.01 U	0.011 U	0.01 U	0.011 U
4-Nitroaniline	25	110	mg/kg	0.014 U	0.013 U	0.014 U	0.013 U	0.014 U

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location	Sample Date	Sample Depth	CFTP-19	CFTP-20	CFTP-20	CFTP-21	CFTP-21
				25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016
			Sample Designation	CFTP-19-SO-2-4	CFTP-20-SO-10-12	CFTP-20-SO-2-4	CFTP-21-SO-10-12	CFTP-21-SO-2-4
4-Nitrophenol	--	--	mg/kg	0.18 U	0.17 U	0.17 U	0.17 U	0.17 U
Acenaphthene	360	4500	mg/kg	0.009 U	0.0084 U	0.0088 U	0.0084 U	0.0087 U
Acenaphthylene	--	--	mg/kg	0.0095 U	0.0089 U	0.0093 U	0.0089 U	0.0092 U
Acetophenone	780	12000	mg/kg	0.0081 U	0.0075 U	0.0079 U	0.0076 U	0.0078 U
Anthracene	1800	23000	mg/kg	0.035 U	0.033 U	0.034 U	0.033 U	0.034 U
Atrazine	2.4	10	mg/kg	0.017 U	0.015 U	0.016 U	0.015 U	0.016 U
Benzaldehyde	170	820	mg/kg	0.028 U	0.026 U	0.028 U	0.027 U	0.027 U
Benzo[a]anthracene	0.16	2.9	mg/kg	0.031 U	0.029 U	0.03 U	0.029 U	0.03 U
Benzo[a]pyrene	0.016	0.29	mg/kg	0.011 U	0.01 U	0.011 U	0.011 U	0.011 J
Benzo[b]fluoranthene	0.16	2.9	mg/kg	0.018 J	0.014 U	0.014 U	0.014 U	0.028 J
Benzo[g,h,i]perylene	--	--	mg/kg	0.021 U	0.02 U	0.021 U	0.02 U	0.021 U
Benzo[k]fluoranthene	1.6	29	mg/kg	0.016 U	0.015 U	0.016 U	0.015 U	0.016 U
Bis(2-chloroethoxy)methane	19	250	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
Bis(2-chloroethyl)ether	0.23	1	mg/kg	0.0088 U	0.0082 U	0.0086 U	0.0082 U	0.0085 U
Bis(2-ethylhexyl) phthalate	39	160	mg/kg	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U
Butyl benzyl phthalate	290	1200	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
Caprolactam	3100	40000	mg/kg	0.027 U	0.025 U	0.026 U	0.025 U	0.026 U
Carbazole	--	--	mg/kg	0.0092 U	0.0086 U	0.009 U	0.0086 U	0.0089 U
Chrysene	16	290	mg/kg	0.013 J	0.0094 U	0.0099 U	0.0095 U	0.018 J
Dibenz(a,h)anthracene	0.016	0.29	mg/kg	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U
Dibenzofuran	7.3	100	mg/kg	0.011 U	0.01 U	0.011 U	0.011 U	0.011 U
Diethyl phthalate	5100	66000	mg/kg	0.011 U	0.0099 U	0.01 U	0.0099 U	0.01 U
Dimethyl phthalate	--	--	mg/kg	0.011 U	0.01 U	0.011 U	0.01 U	0.01 U
Di-n-butyl phthalate	630	8200	mg/kg	0.011 U	0.01 U	0.011 U	0.01 U	0.011 U
Di-n-octyl phthalate	63	820	mg/kg	0.019 U	0.018 U	0.018 U	0.018 U	0.018 U
Fluoranthene	240	3000	mg/kg	0.011 J	0.01 U	0.011 U	0.01 U	0.013 J
Fluorene	240	3000	mg/kg	0.0081 U	0.0075 U	0.0079 U	0.0076 U	0.0078 U
Hexachlorobenzene	0.21	0.96	mg/kg	0.015 U	0.014 U	0.015 U	0.014 U	0.015 U
Hexachlorobutadiene	1.2	5.3	mg/kg	0.01 U	0.0097 U	0.01 U	0.0098 U	0.01 U
Hexachlorocyclopentadiene	0.18	0.75	mg/kg	0.023 U	0.022 U	0.023 U	0.022 U	0.022 U

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location	Sample Date	CFTP-19	CFTP-20	CFTP-20	CFTP-21	CFTP-21
	Sample Depth		25 Aug 2016 2 - 4	25 Aug 2016 10 - 12	25 Aug 2016 2 - 4	25 Aug 2016 10 - 12	25 Aug 2016 2 - 4
	Sample Designation		CFTP-19-SO-2-4	CFTP-20-SO-10-12	CFTP-20-SO-2-4	CFTP-21-SO-10-12	CFTP-21-SO-2-4
Hexachloroethane	1.8	8	mg/kg	0.014 U	0.013 U	0.013 U	0.013 U
Indeno[1,2,3-cd]pyrene	0.16	2.9	mg/kg	0.025 U	0.023 U	0.024 U	0.023 U
Isophorone	570	2400	mg/kg	0.008 U	0.0074 U	0.0078 U	0.0075 U
Naphthalene	3.8	17	mg/kg	0.0094 U	0.0088 U	0.0092 U	0.0088 U
Nitrobenzene	5.1	22	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U
N-Nitrosodi-n-propylamine	0.078	0.33	mg/kg	0.012 U	0.012 U	0.012 U	0.012 U
N-Nitrosodiphenylamine	110	470	mg/kg	0.034 U	0.031 U	0.033 U	0.032 U
Pentachlorophenol	1	4	mg/kg	0.045 U	0.042 U	0.044 U	0.042 U
Phenanthrene	--	--	mg/kg	0.0099 U	0.0092 U	0.0097 U	0.0093 U
Phenol	1900	25000	mg/kg	0.012 U	0.011 U	0.012 U	0.011 U
Pyrene	180	2300	mg/kg	0.017 U	0.016 U	0.016 U	0.016 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit	Sample Location	CFTP-22	CFTP-22	CFTP-23	CFTP-23	CFTP-23
				Sample Date	25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016	26 Aug 2016
	Sample Depth	10 - 12	2 - 4	Sample Designation	CFTP-22-SO-10-12	CFTP-22-SO-2-4	CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO
1,1'-Biphenyl	4.7	20	mg/kg	0.033 U	0.032 U	0.031 U	0.032 U	0.032 U	0.032 U
1,2,4,5-Tetrachlorobenzene	2.3	35	mg/kg	0.029 U	0.028 U	0.027 U	0.028 U	0.028 U	0.028 U
1,4-Dioxane	5.3	24	mg/kg	0.1 U	0.1 U	0.096 U	0.1 U	0.1 U	0.1 U
2,2'-oxybis[1-chloropropane]	310	4700	mg/kg	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U
2,3,4,6-Tetrachlorophenol	190	2500	mg/kg	0.037 U	0.035 U	0.034 U	0.035 U	0.036 U	0.036 U
2,4,5-Trichlorophenol	630	8200	mg/kg	0.039 U	0.037 U	0.036 U	0.037 U	0.038 U	0.038 U
2,4,6-Trichlorophenol	6.3	82	mg/kg	0.011 U	0.011 U	0.01 U	0.011 U	0.011 U	0.011 U
2,4-Dichlorophenol	19	250	mg/kg	0.0092 U	0.0088 U	0.0084 U	0.0088 U	0.0089 U	0.0089 U
2,4-Dimethylphenol	130	1600	mg/kg	0.086 U	0.082 U	0.079 U	0.082 U	0.083 U	0.083 U
2,4-Dinitrophenol	13	160	mg/kg	0.29 UJ	0.28 UJ	0.27 UJ	0.28 UJ	0.29 UJ	0.29 UJ
2,4-Dinitrotoluene	1.7	7.4	mg/kg	0.015 U	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U
2,6-Dinitrotoluene	0.36	1.5	mg/kg	0.021 U	0.02 U	0.019 U	0.02 U	0.02 U	0.02 U
2-Chloronaphthalene	480	6000	mg/kg	0.0088 U	0.0085 U	0.0081 U	0.0085 U	0.0086 U	0.0086 U
2-Chlorophenol	39	580	mg/kg	0.0099 U	0.0095 U	0.0091 U	0.0095 U	0.0096 U	0.0096 U
2-Methylnaphthalene	24	300	mg/kg	0.0086 U	0.0082 U	0.0079 U	0.0083 U	0.0083 U	0.0083 U
2-Methylphenol	320	4100	mg/kg	0.017 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
2-Nitroaniline	63	800	mg/kg	0.013 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
2-Nitrophenol	--	--	mg/kg	0.013 U	0.013 U	0.012 U	0.013 U	0.013 U	0.013 U
3 & 4 Methylphenol	--	--	mg/kg	0.01 U	0.0099 U	0.0095 U	0.0099 U	0.01 U	0.01 U
3,3'-Dichlorobenzidine	1.2	5.1	mg/kg	0.043 U	0.042 U	0.04 U	0.042 U	0.042 U	0.042 U
3-Nitroaniline	--	--	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
4,6-Dinitro-2-methylphenol	0.51	6.6	mg/kg	0.1 U	0.099 U	0.095 U	0.1 U	0.1 U	0.1 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
4-Chloro-3-methylphenol	630	8200	mg/kg	0.017 U	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U
4-Chloroaniline	2.7	11	mg/kg	0.01 U	0.0096 U	0.0092 U	0.0096 U	0.0097 U	0.0097 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
4-Nitroaniline	25	110	mg/kg	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

	Sample Location	Sample Date	Sample Depth	CFTP-22	CFTP-22	CFTP-23	CFTP-23	CFTP-23
				25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016	26 Aug 2016
				10 - 12	2 - 4	10 - 12	2 - 4	2 - 4
				CFTP-22-SO-10-12	CFTP-22-SO-2-4	CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO
4-Nitrophenol	--	--	mg/kg	0.19 U	0.18 U	0.17 U	0.18 U	0.18 U
Acenaphthene	360	4500	mg/kg	0.0094 U	0.009 U	0.0087 U	0.009 U	0.0091 U
Acenaphthylene	--	--	mg/kg	0.01 U	0.0096 U	0.0092 U	0.0096 U	0.0097 U
Acetophenone	780	12000	mg/kg	0.0085 U	0.0081 U	0.0078 U	0.0081 U	0.0082 U
Anthracene	1800	23000	mg/kg	0.037 U	0.035 U	0.034 U	0.035 U	0.036 U
Atrazine	2.4	10	mg/kg	0.017 U	0.017 U	0.016 U	0.017 U	0.017 U
Benzaldehyde	170	820	mg/kg	0.03 U	0.028 U	0.027 U	0.028 U	0.029 U
Benzo[a]anthracene	0.16	2.9	mg/kg	0.032 U	0.031 U	0.03 U	0.031 U	0.032 U
Benzo[a]pyrene	0.016	0.29	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
Benzo[b]fluoranthene	0.16	2.9	mg/kg	0.015 U	0.015 U	0.014 U	0.015 U	0.015 U
Benzo[g,h,i]perylene	--	--	mg/kg	0.022 U	0.021 U	0.021 U	0.021 U	0.022 U
Benzo[k]fluoranthene	1.6	29	mg/kg	0.017 U	0.016 U	0.016 U	0.016 U	0.016 U
Bis(2-chloroethoxy)methane	19	250	mg/kg	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U
Bis(2-chloroethyl)ether	0.23	1	mg/kg	0.0092 U	0.0088 U	0.0084 U	0.0088 U	0.0089 U
Bis(2-ethylhexyl) phthalate	39	160	mg/kg	0.015 U	0.015 U	0.014 U	0.015 U	0.015 U
Butyl benzyl phthalate	290	1200	mg/kg	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U
Caprolactam	3100	40000	mg/kg	0.028 U	0.027 U	0.026 U	0.027 U	0.027 U
Carbazole	--	--	mg/kg	0.0097 U	0.0092 U	0.0089 U	0.0093 U	0.0094 U
Chrysene	16	290	mg/kg	0.011 U	0.01 U	0.0097 U	0.01 U	0.01 U
Dibenz(a,h)anthracene	0.016	0.29	mg/kg	0.02 U	0.019 U	0.019 U	0.019 U	0.02 U
Dibenzofuran	7.3	100	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
Diethyl phthalate	5100	66000	mg/kg	0.011 U	0.011 U	0.01 U	0.011 U	0.011 U
Dimethyl phthalate	--	--	mg/kg	0.011 U	0.011 U	0.01 U	0.011 U	0.011 U
Di-n-butyl phthalate	630	8200	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
Di-n-octyl phthalate	63	820	mg/kg	0.02 U	0.019 U	0.018 U	0.019 U	0.019 U
Fluoranthene	240	3000	mg/kg	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
Fluorene	240	3000	mg/kg	0.0085 U	0.0081 U	0.0078 U	0.0081 U	0.0082 U
Hexachlorobenzene	0.21	0.96	mg/kg	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U
Hexachlorobutadiene	1.2	5.3	mg/kg	0.011 U	0.01 U	0.01 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	0.18	0.75	mg/kg	0.024 U	0.023 U	0.022 U	0.023 U	0.024 U

**Table 2. Summary of Semi-Volatile Organic Compounds in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location			CFTP-22	CFTP-22	CFTP-23	CFTP-23	CFTP-23
Sample Date			25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016	26 Aug 2016
Sample Depth			10 - 12	2 - 4	10 - 12	2 - 4	2 - 4
Sample Designation			CFTP-22-SO-10-12	CFTP-22-SO-2-4	CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO
Hexachloroethane	1.8	8	mg/kg	0.014 U	0.014 U	0.013 U	0.014 U
Indeno[1,2,3-cd]pyrene	0.16	2.9	mg/kg	0.026 U	0.025 U	0.024 U	0.025 U
Isophorone	570	2400	mg/kg	0.0084 U	0.008 U	0.0077 U	0.008 U
Naphthalene	3.8	17	mg/kg	0.0099 U	0.0095 U	0.0091 U	0.0095 U
Nitrobenzene	5.1	22	mg/kg	0.012 U	0.012 U	0.011 U	0.012 U
N-Nitrosodi-n-propylamine	0.078	0.33	mg/kg	0.013 U	0.013 U	0.012 U	0.013 U
N-Nitrosodiphenylamine	110	470	mg/kg	0.035 U	0.034 U	0.032 U	0.034 U
Pentachlorophenol	1	4	mg/kg	0.047 U	0.045 U	0.043 U	0.045 U
Phenanthrene	--	--	mg/kg	0.01 U	0.0099 U	0.0095 U	0.0099 U
Phenol	1900	25000	mg/kg	0.013 U	0.012 U	0.012 U	0.012 U
Pyrene	180	2300	mg/kg	0.018 U	0.017 U	0.016 U	0.017 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 3. Summary of Polychlorinated Biphenyls in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location Sample Date Sample Depth Sample Designation				CFTP-17 25 Aug 2016 10 - 12 CFTP-17-SO-10-12	CFTP-17 25 Aug 2016 2 - 4 CFTP-17-SO-2-4	CFTP-18 26 Aug 2016 10 - 12 CFTP-18-SO-10-12	CFTP-18 26 Aug 2016 2 - 4 CFTP-18-SO-2-4	CFTP-19 25 Aug 2016 10 - 12 CFTP-19-SO-10-12
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
Aroclor 1016	0.41	5.1	mg/kg	0.0098 U	0.01 U	0.0099 U	0.01 U	0.0094 U
Aroclor 1221	0.2	0.83	mg/kg	0.0098 U	0.01 U	0.0099 U	0.01 U	0.0094 U
Aroclor 1232	0.17	0.72	mg/kg	0.0098 U	0.01 U	0.0099 U	0.01 U	0.0094 U
Aroclor 1242	0.23	0.95	mg/kg	0.0098 U	0.01 U	0.0099 U	0.01 U	0.0094 U
Aroclor 1248	0.23	0.95	mg/kg	0.0098 U	0.01 U	0.0099 U	0.01 U	0.0094 U
Aroclor 1254	0.12	0.97	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.0098 U
Aroclor 1260	0.24	0.99	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.0098 U
Aroclor 1268	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.0098 U
Aroclor-1262	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.0098 U
Polychlorinated biphenyls, Total	0.23	0.94	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.0098 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 3. Summary of Polychlorinated Biphenyls in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location Sample Date Sample Depth Sample Designation				CFTP-19 25 Aug 2016 2 - 4 CFTP-19-SO-2-4	CFTP-20 25 Aug 2016 10 - 12 CFTP-20-SO-10-12	CFTP-20 25 Aug 2016 2 - 4 CFTP-20-SO-2-4	CFTP-21 25 Aug 2016 10 - 12 CFTP-21-SO-10-12	CFTP-21 25 Aug 2016 2 - 4 CFTP-21-SO-2-4
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
Aroclor 1016	0.41	5.1	mg/kg	0.01 U	0.0093 U	0.0098 U	0.0094 U	0.0097 U
Aroclor 1221	0.2	0.83	mg/kg	0.01 U	0.0093 U	0.0098 U	0.0094 U	0.0097 U
Aroclor 1232	0.17	0.72	mg/kg	0.01 U	0.0093 U	0.0098 U	0.0094 U	0.0097 U
Aroclor 1242	0.23	0.95	mg/kg	0.01 U	0.0093 U	0.0098 U	0.0094 U	0.0097 U
Aroclor 1248	0.23	0.95	mg/kg	0.01 U	0.0093 U	0.0098 U	0.0094 U	0.0097 U
Aroclor 1254	0.12	0.97	mg/kg	0.01 U	0.0097 U	0.01 U	0.0097 U	0.01 U
Aroclor 1260	0.24	0.99	mg/kg	0.01 U	0.0097 U	0.01 U	0.0097 U	0.01 U
Aroclor 1268	--	--	mg/kg	0.01 U	0.0097 U	0.01 U	0.0097 U	0.01 U
Aroclor-1262	--	--	mg/kg	0.01 U	0.0097 U	0.01 U	0.0097 U	0.01 U
Polychlorinated biphenyls, Total	0.23	0.94	mg/kg	0.01 U	0.0097 U	0.01 U	0.0097 U	0.01 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 3. Summary of Polychlorinated Biphenyls in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location Sample Date Sample Depth Sample Designation				CFTP-22 25 Aug 2016 10 - 12 CFTP-22-SO-10-12	CFTP-22 25 Aug 2016 2 - 4 CFTP-22-SO-2-4	CFTP-23 26 Aug 2016 10 - 12 CFTP-23-SO-10-12	CFTP-23 26 Aug 2016 2 - 4 CFTP-23-SO-2-4	CFTP-23 26 Aug 2016 2 - 4 CFTP-DUP24-SO
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
Aroclor 1016	0.41	5.1	mg/kg	0.01 U	0.01 U	0.0096 U	0.01 U	0.01 U
Aroclor 1221	0.2	0.83	mg/kg	0.01 U	0.01 U	0.0096 U	0.01 U	0.01 U
Aroclor 1232	0.17	0.72	mg/kg	0.01 U	0.01 U	0.0096 U	0.01 U	0.01 U
Aroclor 1242	0.23	0.95	mg/kg	0.01 U	0.01 U	0.0096 U	0.01 U	0.01 U
Aroclor 1248	0.23	0.95	mg/kg	0.01 U	0.01 U	0.0096 U	0.01 U	0.01 U
Aroclor 1254	0.12	0.97	mg/kg	0.011 U	0.01 U	0.01 U	0.01 U	0.011 U
Aroclor 1260	0.24	0.99	mg/kg	0.011 U	0.01 U	0.01 U	0.01 U	0.011 U
Aroclor 1268	--	--	mg/kg	0.011 U	0.01 U	0.01 U	0.01 U	0.011 U
Aroclor-1262	--	--	mg/kg	0.011 U	0.01 U	0.01 U	0.01 U	0.011 U
Polychlorinated biphenyls, Total	0.23	0.94	mg/kg	0.011 U	0.01 U	0.01 U	0.01 U	0.011 U

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 4. Summary of Metals in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location			CFTP-17	CFTP-17	CFTP-18	CFTP-18
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Sample Date	25 Aug 2016	25 Aug 2016	26 Aug 2016
			Sample Depth	10 - 12	2 - 4	10 - 12
			Sample Designation	CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12
			Unit			CFTP-18-SO-2-4
Aluminum	<b>7700</b>	110000	mg/kg	<b>11900</b>	<b>12700</b>	<b>12500</b>
Antimony	3.1	47	mg/kg	0.28 UJ	0.31 UJ	0.29 UJ
Arsenic	<b>0.68</b>	3	mg/kg	<b>6.3</b>	<b>3.2</b>	<b>8.6</b>
Barium	1500	22000	mg/kg	75.9 J	73.3 J	105 J
Beryllium	16	230	mg/kg	0.53	0.36 J	0.57
Cadmium	7.1	98	mg/kg	0.29 U	0.33 U	0.31 U
Calcium	--	--	mg/kg	38100	1200	1430
Chromium	--	--	mg/kg	10.4	8.6	8.4
Cobalt	<b>2.3</b>	35	mg/kg	<b>7.7 J</b>	<b>4.9 J</b>	<b>4.7 J</b>
Copper	310	4700	mg/kg	23.2 J	14.7 J	20.1 J
Cyanide, Total	2.3	15	mg/kg	0.03 U	0.031 J	0.029 U
Iron	<b>5500</b>	82000	mg/kg	<b>17300 J</b>	<b>12300 J</b>	<b>20400 J</b>
Lead	400	800	mg/kg	14.9 J	6.8 J	7.7 J
Magnesium	--	--	mg/kg	13900	8420	7780
Manganese	<b>180</b>	2600	mg/kg	<b>423 J</b>	<b>300 J</b>	<b>975 J</b>
Mercury	1.1	4.6	mg/kg	0.027	0.038	0.014 J
Nickel	150	2200	mg/kg	12.9	11.2	9.4
Potassium	--	--	mg/kg	708	476	646
Selenium	39	580	mg/kg	0.26 U	0.29 U	0.27 U
						0.28 U

**Table 4. Summary of Metals in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location		CFTP-17	CFTP-17	CFTP-18	CFTP-18
Sample Date		25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016
Sample Depth		10 - 12	2 - 4	10 - 12	2 - 4
Sample Designation		CFTP-17-SO-10-12	CFTP-17-SO-2-4	CFTP-18-SO-10-12	CFTP-18-SO-2-4
Silver	39	580	mg/kg	0.54 U	0.6 U
Sodium	--	--	mg/kg	37.4 U	41.9 U
Thallium	0.078	1.2	mg/kg	0.11 U	0.12 U
Vanadium	39	580	mg/kg	11.9 J	6 J
Zinc	2300	35000	mg/kg	48.5 J	37.4 J
					37.5 J
					33.7 J

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 4. Summary of Metals in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location			CFTP-19	CFTP-19	CFTP-20	CFTP-20	CFTP-21	CFTP-21
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Sample Date	25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016
			Sample Depth	10 - 12	2 - 4	10 - 12	2 - 4	10 - 12
			Sample Designation	CFTP-19-SO-10-12	CFTP-19-SO-2-4	CFTP-20-SO-10-12	CFTP-20-SO-2-4	CFTP-21-SO-10-12
Aluminum	<b>7700</b>	110000	mg/kg	5530	<b>9500</b>	<b>8490</b>	<b>16800</b>	7110
Antimony	3.1	47	mg/kg	0.28 UJ	0.3 UJ	0.29 UJ	0.27 UJ	0.29 UJ
Arsenic	<b>0.68</b>	3	mg/kg	<b>3.6</b>	<b>5.9</b>	<b>4.4</b>	<b>5.1</b>	<b>4.3</b>
Barium	1500	22000	mg/kg	58.6	63.8	53.1	107	37.5
Beryllium	16	230	mg/kg	0.29 J	0.42	0.25 J	0.59	0.31 J
Cadmium	7.1	98	mg/kg	0.29 U	0.31 U	0.3 U	0.3 U	0.28 U
Calcium	--	--	mg/kg	27800	27900	41600	1950	29700
Chromium	--	--	mg/kg	5.7	9.1	7.2	12.1	6.6
Cobalt	<b>2.3</b>	35	mg/kg	<b>4</b>	<b>4.4</b>	<b>4.6</b>	<b>5.5</b>	<b>4.1</b>
Copper	310	4700	mg/kg	8.4	14.1	11.9	25.8	7.7
Cyanide, Total	2.3	15	mg/kg	0.03 U	0.05 J	0.026 U	0.03 J	0.034 J
Iron	<b>5500</b>	82000	mg/kg	<b>9010</b>	<b>13000</b>	<b>12000</b>	<b>18800</b>	<b>10200</b>
Lead	400	800	mg/kg	6.1 J+	10.2 J+	5.9 J+	13.1 J+	4.4 J+
Magnesium	--	--	mg/kg	8800	9940	13400	10400	14200
Manganese	<b>180</b>	2600	mg/kg	<b>257</b>	<b>266</b>	<b>414</b>	<b>247</b>	<b>272</b>
Mercury	1.1	4.6	mg/kg	0.014 J	0.042	0.024	0.044	0.021
Nickel	150	2200	mg/kg	7 J+	10.3 J+	9.5 J+	12.2 J+	7.7 J+
Potassium	--	--	mg/kg	572	572	604	801	478
Selenium	39	580	mg/kg	0.26 U	0.28 U	0.27 U	0.27 U	0.27 U

**Table 4. Summary of Metals in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location			CFTP-19	CFTP-19	CFTP-20	CFTP-20	CFTP-21	CFTP-21
Sample Date			25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016	25 Aug 2016
Sample Depth			10 - 12	2 - 4	10 - 12	2 - 4	10 - 12	2 - 4
Sample Designation			CFTP-19-SO-10-12	CFTP-19-SO-2-4	CFTP-20-SO-10-12	CFTP-20-SO-2-4	CFTP-21-SO-10-12	CFTP-21-SO-2-4
Silver	39	580	mg/kg	0.54 U	0.58 U	0.56 U	0.56 U	0.52 U
Sodium	--	--	mg/kg	37.4 U	40 U	38.9 U	63.3 J	36.1 U
Thallium	0.078	1.2	mg/kg	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U
Vanadium	39	580	mg/kg	6.4	7.2	5.9	12.7	5.1
Zinc	2300	35000	mg/kg	24.1	36.2	36.9	47.6	31.2

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but no

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above th

Soil Regional Screening Levels

**Table 4. Summary of Metals in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location			CFTP-22	CFTP-22	CFTP-23	CFTP-23	CFTP-23
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Sample Date	25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016
			Sample Depth	10 - 12	2 - 4	10 - 12	2 - 4
			Sample Designation	CFTP-22-SO-10-12	CFTP-22-SO-2-4	CFTP-23-SO-10-12	CFTP-23-SO-2-4
			Unit				CFTP-DUP24-SO
Aluminum	<b>7700</b>	110000	mg/kg	<b>8070</b>	<b>7840</b>	<b>11800</b>	<b>14300 J</b>
Antimony	3.1	47	mg/kg	0.29 UJ	0.31 UJ	0.27 UJ	0.29 UJ
Arsenic	<b>0.68</b>	3	mg/kg	<b>7.8</b>	<b>4.2</b>	<b>2.4</b>	<b>5 J</b>
Barium	1500	22000	mg/kg	102 J	31.4 J	166 J	86 J
Beryllium	16	230	mg/kg	0.36	0.24 J	0.29 J	0.4 J
Cadmium	7.1	98	mg/kg	0.31 U	0.33 U	0.29 U	0.31 U
Calcium	--	--	mg/kg	47100	687	3140	1420 J
Chromium	--	--	mg/kg	10.1	6.3	7	10.9 J
Cobalt	<b>2.3</b>	35	mg/kg	<b>5.7 J</b>	<b>2.4 J</b>	<b>3.2 J</b>	<b>5 J</b>
Copper	310	4700	mg/kg	15.4 J	9.4 J	5.8 J	13.6 J
Cyanide, Total	2.3	15	mg/kg	0.03 U	0.05 J-	0.048 J	0.28 J
Iron	<b>5500</b>	82000	mg/kg	<b>12000 J</b>	<b>10800 J</b>	<b>9370 J</b>	<b>16000 J</b>
Lead	400	800	mg/kg	8.5 J	6.2 J	9.5 J	9 J
Magnesium	--	--	mg/kg	9770	5950	7850	9550 J
Manganese	<b>180</b>	2600	mg/kg	<b>265 J</b>	138 J	<b>580 J</b>	<b>192 J</b>
Mercury	1.1	4.6	mg/kg	0.031	0.027	0.018	0.024
Nickel	150	2200	mg/kg	9.6	6	15.6	11.4 J
Potassium	--	--	mg/kg	711	418	1040	657 J
Selenium	39	580	mg/kg	0.27 U	0.29 U	0.25 U	0.27 U
							0.31 J

**Table 4. Summary of Metals in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location		CFTP-22	CFTP-22	CFTP-23	CFTP-23	CFTP-23
Sample Date		25 Aug 2016	25 Aug 2016	26 Aug 2016	26 Aug 2016	26 Aug 2016
Sample Depth		10 - 12	2 - 4	10 - 12	2 - 4	2 - 4
Sample Designation		CFTP-22-SO-10-12	CFTP-22-SO-2-4	CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO
Silver	39	580	mg/kg	0.57 U	0.61 U	0.53 U
Sodium	--	--	mg/kg	39.2 U	42.5 J	46.7 J
Thallium	0.078	1.2	mg/kg	0.11 U	0.12 U	0.11 U
Vanadium	39	580	mg/kg	7.9 J	4.6 J	12.6 J
Zinc	2300	35000	mg/kg	31.6 J	23.2 J	46 J
						11.1 J
						2.1 J
						16.6 J

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but no

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above th

Soil Regional Screening Levels

**Table 5. Summary of Fluoride in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

				Sample Location Sample Date Sample Depth Sample Designation	CFTP-17 25 Aug 2016 10 - 12 CFTP-17-SO-10-12	CFTP-17 25 Aug 2016 2 - 4 CFTP-17-SO-2-4	CFTP-18 26 Aug 2016 10 - 12 CFTP-18-SO-10-12	CFTP-18 26 Aug 2016 2 - 4 CFTP-18-SO-2-4
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
Fluoride	310	4700	mg/kg		9.66 J+	31.9 J+	0.87 J	4.01 J

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 5. Summary of Fluoride in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

				Sample Location Sample Date Sample Depth Sample Designation	CFTP-19 25 Aug 2016 10 - 12 CFTP-19-SO-10-12	CFTP-19 25 Aug 2016 2 - 4 CFTP-19-SO-2-4	CFTP-20 25 Aug 2016 10 - 12 CFTP-20-SO-10-12	CFTP-20 25 Aug 2016 2 - 4 CFTP-20-SO-2-4
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
Fluoride	310	4700	mg/kg		1.63 J+	7.69 J+	3.01 J+	5.55 J+

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 5. Summary of Fluoride in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

				Sample Location Sample Date Sample Depth Sample Designation	CFTP-21 25 Aug 2016 10 - 12 CFTP-21-SO-10-12	CFTP-21 25 Aug 2016 2 - 4 CFTP-21-SO-2-4	CFTP-22 25 Aug 2016 10 - 12 CFTP-22-SO-10-12	CFTP-22 25 Aug 2016 2 - 4 CFTP-22-SO-2-4
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit					
Fluoride	310	4700	mg/kg		1.88 J+	14.6 J+	2.48 J+	4.27 J+

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 5. Summary of Fluoride in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Sample Location	CFTP-23	CFTP-23	CFTP-23
Sample Date	26 Aug 2016	26 Aug 2016	26 Aug 2016
Sample Depth	10 - 12	2 - 4	2 - 4
Sample Designation	CFTP-23-SO-10-12	CFTP-23-SO-2-4	CFTP-DUP24-SO
Parameter	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit
Fluoride	310	4700	mg/kg

J - Estimated value

J+ -Estimated High Bias

J- - Estimated Low Bias

U - Indicates that the compound was analyzed for but not detected

R - Indicates sample was rejected

DUP - Duplicate sample

mg/kg - Milligrams per kilogram

ft bls - Feet below land surface

EPA - Environmental Protection Agency

Bold data indicates that parameter was detected above the EPA Industrial

Soil Regional Screening Levels

**Table 6. Summary of Frequency of Exceedances in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Group	Determinand	Matrix	No. of Results	Unit	Min	Max	Mean	Median	Standard Deviation	5th Percentile	95th Percentile	# > LOD	% > LOD	RSL IND SOIL		RSL RES SOIL			
														No. Exceeding	% Exceeding	Action Level	No. Exceeding	% Exceeding	Action Level
GENCHEM	Fluoride	SO	15	mg/kg	0.87	40.9	10.897333	4.27	13.24	1.402	35.37	15	100	0	0	4700	0	0	310
METALS	Aluminum	SO	15	mg/kg	2080	16800	9287.3333	8490	4093	2675	15050	15	100	0	0	110000	11	73	7700
METALS	Antimony	SO	15	mg/kg	<0.27	<0.29	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	47	0	0	3.1
METALS	Arsenic	SO	15	mg/kg	0.8	8.6	4.4866667	4.4	2.18	0.94	8.04	15	100	12	80	3	15	100	0.68
METALS	Barium	SO	15	mg/kg	18.2	166	74.58	73.3	36.44	27.44	124.7	15	100	0	0	22000	0	0	1500
METALS	Beryllium	SO	15	mg/kg	0.094	0.59	0.3369333	0.31	0.149	0.098	0.576	15	100	0	0	230	0	0	16
METALS	Cadmium	SO	15	mg/kg	<0.28	<0.31	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	98	0	0	7.1
METALS	Calcium	SO	15	mg/kg	421	47100	17997.867	9720	17965	607.2	43250	15	100	-	-	-	-	-	-
METALS	Chromium	SO	15	mg/kg	1.5	12.1	7.68	8.4	2.876	2.48	11.26	15	100	-	-	-	-	-	-
METALS	Cobalt	SO	15	mg/kg	0.63	7.8	4.4086667	4.6	1.971	1.239	7.73	15	100	0.00	0	35	13	86.7	2.3
METALS	Copper	SO	15	mg/kg	4.4	25.8	13.64	13.6	6.139	5.38	23.98	15	100	0.00	0	4700	0	0	310
METALS	Cyanide, Total	SO	15	mg/kg	<0.026	0.28	0.0519333	0.031	0.08	n.d.	0.249	9	60	0	0	15	0	0	2.3
METALS	Iron	SO	15	mg/kg	2670	20400	11940	12000	4924	3356	19280	15	100	0	0	82000	13	87	5500
METALS	Lead	SO	15	mg/kg	2.3	14.9	7.6266667	6.8	3.406	3	13.64	15	100	0	0	800	0	0	400
METALS	Magnesium	SO	15	mg/kg	977	14200	9058.4667	9550	3838	2001	13990	15	100	-	-	-	-	-	-
METALS	Manganese	SO	15	mg/kg	48	975	339.8	272	216.3	111	698.5	15	100	0	0	2600	13	87	180
METALS	Mercury	SO	15	mg/kg	0.014	0.044	0.0274	0.027	0.009	0.014	0.043	15	100	0	0	4.6	0	0	1.1
METALS	Nickel	SO	15	mg/kg	1.6	15.6	9.1133333	9.6	3.711	2.3	13.71	15	100	0.00	0	2200	0	0	150
METALS	Potassium	SO	15	mg/kg	184	1040	573.53333	572	211.7	228.8	872.7	15	100	-	-	-	-	-	-
METALS	Selenium	SO	15	mg/kg	<0.25	0.31	n.d.	n.d.	n.d.	n.d.	0.31	1	6.67	0	0	580	0	0	39
METALS	Silver	SO	15	mg/kg	<0.52	<0.57	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	580	0	0	39
METALS	Sodium	SO	15	mg/kg	<36.1	63.3	n.d.	n.d.	n.d.	n.d.	62.47	2	13.3	-	-	-	-	-	-
METALS	Thallium	SO	15	mg/kg	<0.11	<0.12	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	1.2	0	0	0.078
METALS	Vanadium	SO	15	mg/kg	1.9	12.7	7.3266667	6.4	3.487	2.04	12.63	15	100	0	0	580	0	0	39
METALS	Zinc	SO	15	mg/kg	7.8	48.5	33.28	36.2	11.44	13.96	47.87	15	100	0	0	35000	0	0	2300
PCB	Aroclor 1016	SO	15	mg/kg	<0.0093	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	5.1	0	0	0.41
PCB	Aroclor 1221	SO	15	mg/kg	<0.0093	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.83	0	0	0.2
PCB	Aroclor 1232	SO	15	mg/kg	<0.0093	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.72	0	0	0.17
PCB	Aroclor 1242	SO	15	mg/kg	<0.0093	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.95	0	0	0.23
PCB	Aroclor 1248	SO	15	mg/kg	<0.0093	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.95	0	0	0.23
PCB	Aroclor 1254	SO	15	mg/kg	<0.0097	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.97	0	0	0.12
PCB	Aroclor 1260	SO	15	mg/kg	<0.0097	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.99	0	0	0.24
PCB	Aroclor 1268	SO	15	mg/kg	<0.0097	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-
PCB	Aroclor-1262	SO	15	mg/kg	<0.0097	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-
PCB	Polychlorinated biphenyls, Total	SO	15	mg/kg	<0.0097	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.94	0	0	0.23
SVOC	1,1'-Biphenyl	SO	15	mg/kg	<0.03	<0.033	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	20	0	0	4.7
SVOC	1,2,4,5-Tetrachlorobenzene	SO	15	mg/kg	<0.026	<0.029	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	35	0	0	2.3
SVOC	1,4-Dioxane	SO	15	mg/kg	<0.93	<0.1	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	24	0	0	5.3
SVOC	2,2'-oxybis[1-chloropropane]	SO	15	mg/kg	<0.014	<0.016	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	4700	0	0	310
SVOC	2,3,4,6-Tetrachlorophenol	SO	15	mg/kg	<0.033	<0.037	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	2500	0	0	190
SVOC	2,4,5-Trichlorophenol	SO	15	mg/kg	<0.034	<0.039	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	8200	0	0	630
SVOC	2,4,6-Trichlorophenol	SO	15	mg/kg	<0.0099	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	82	0	0	6.3
SVOC	2,4-Dichlorophenol	SO	15	mg/kg	<0.0082	<0.0092	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	250	0	0	19
SVOC	2,4-Dimethylphenol	SO	15	mg/kg	<0.076	<0.086	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	1600	0	0	130
SVOC	2,4-Dinitrophenol	SO	15	mg/kg	<0.26	<0.29	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	160	0	0	13
SVOC	2,4-Dinitrotoluene	SO	15	mg/kg	<0.014	<0.015	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	7.4	0	0	1.7
SVOC	2,6-Dinitrotoluene	SO	15	mg/kg	<0.018	<0.021	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	1.5	0	0	0.36
SVOC	2-Chloronaphthalene	SO	15	mg/kg	<0.0079	<0.0088	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	6000	0	0	480
SVOC	2-Chlorophenol	SO	15	mg/kg	<0.0088	<0.0099	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	580	0	0	39
SVOC	2-Methylnaphthalene	SO	15	mg/kg	<0.0077	<0.0086	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	300	0	0	24
SVOC	2-Methylphenol	SO	15	mg/kg	<0.015	<0.017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	4100	0	0	320
SVOC	2-Nitroaniline	SO	15	mg/kg	<0.011	<0.013	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	800	0	0	63
SVOC	2-Nitrophenol	SO	15	mg/kg	<0.012	<0.013	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	-	-	-	-
SVOC	3 & 4 Methylphenol	SO	15	mg/kg	<0.0092	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-

**Table 6. Summary of Frequency of Exceedances in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Group	Determination	Matrix	No. of Results	Unit	Min	Max	Mean	Median	Standard Deviation	5th Percentile	95th Percentile	# > LOD	% > LOD	RSL IND SOIL		RSL RES SOIL				
														No. Exceeding	% Exceeding	Action Level	No. Exceeding	% Exceeding	Action Level	
SVOC	3,3'-Dichlorobenzidine	SO	15	mg/kg	<0.039	<0.043	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	5.1	0	0	1.2
SVOC	3-Nitroaniline	SO	15	mg/kg	<0.01	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	-	-	6.6	0	0	-
SVOC	4,6-Dinitro-2-methylphenol	SO	15	mg/kg	<0.092	<0.1	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0.00	0	-	0	0	0.51
SVOC	4-Bromophenyl phenyl ether	SO	15	mg/kg	<0.011	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	-	-	-	-	-	-
SVOC	4-Chloro-3-methylphenol	SO	15	mg/kg	<0.015	<0.017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	8200	0	0	630
SVOC	4-Chloroaniline	SO	15	mg/kg	<0.0089	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	11	0	0	2.7
SVOC	4-Chlorophenyl phenyl ether	SO	15	mg/kg	<0.01	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	-	-	-	-	-	-
SVOC	4-Nitroaniline	SO	15	mg/kg	<0.013	<0.015	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	110	0	0	25
SVOC	4-Nitrophenol	SO	15	mg/kg	<0.17	<0.19	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	-	-	-	-	-	-
SVOC	Acenaphthene	SO	15	mg/kg	<0.0084	<0.0094	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0.00	0	0	4500	0	0	360
SVOC	Acenaphthylene	SO	15	mg/kg	<0.0089	<0.01	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-	-
SVOC	Acetophenone	SO	15	mg/kg	<0.0075	<0.0085	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	12000	0	0	780
SVOC	Anthracene	SO	15	mg/kg	<0.033	<0.037	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	23000	0	0	1800
SVOC	Atrazine	SO	15	mg/kg	<0.015	<0.017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	10	0	0	2.4
SVOC	Benzaldehyde	SO	15	mg/kg	<0.026	<0.03	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0.00	0	0	820	0	0	170
SVOC	Benzo[a]anthracene	SO	15	mg/kg	<0.029	<0.032	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	2.9	0	0	0.16
SVOC	Benzo[a]pyrene	SO	15	mg/kg	<0.01	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	-	1	6.67	0	0	0.29	0	0	0.016
SVOC	Benzo[b]fluoranthene	SO	15	mg/kg	<0.014	0.028	0.0040667	n.d.	0.009	n.d.	0.027	3	20	0	0	0	2.9	0	0	0.16
SVOC	Benzo[g,h,i]perylene	SO	15	mg/kg	<0.02	<0.022	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-	-
SVOC	Benzo[k]fluoranthene	SO	15	mg/kg	<0.015	<0.017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	29	0	0	1.6
SVOC	Bis(2-chloroethoxy)methane	SO	15	mg/kg	<0.011	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	250	0	0	19
SVOC	Bis(2-chloroethyl)ether	SO	15	mg/kg	<0.0082	<0.0092	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	1	0	0	0.23
SVOC	Bis(2-ethylhexyl) phthalate	SO	15	mg/kg	<0.014	<0.015	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	160	0	0	39
SVOC	Butyl benzyl phthalate	SO	15	mg/kg	<0.011	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	1200	0	0	290
SVOC	Caprolactam	SO	15	mg/kg	<0.025	<0.028	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	40000	0	0	3100
SVOC	Carbazole	SO	15	mg/kg	<0.0086	<0.0097	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-	-
SVOC	Chrysene	SO	15	mg/kg	<0.0094	0.018	n.d.	n.d.	n.d.	n.d.	n.d.	0.018	2	13.3	0	0	290	0	0	16
SVOC	Dibenz(a,h)anthracene	SO	15	mg/kg	<0.018	<0.02	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.29	0	0	0.016
SVOC	Dibenzofuran	SO	15	mg/kg	<0.01	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	100	0	0	7.3
SVOC	Diethyl phthalate	SO	15	mg/kg	<0.0099	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	66000	0	0	5100
SVOC	Dimethyl phthalate	SO	15	mg/kg	<0.01	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-	-	-	-
SVOC	Di-n-butyl phthalate	SO	15	mg/kg	<0.01	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	8200	0	0	630
SVOC	Di-n-octyl phthalate	SO	15	mg/kg	<0.018	<0.02	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	820	0	0	63
SVOC	Fluoranthene	SO	15	mg/kg	<0.01	0.013	n.d.	n.d.	n.d.	n.d.	n.d.	0.013	2	13.3	0	0	3000	0	0	240
SVOC	Fluorene	SO	15	mg/kg	<0.0075	<0.0085	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0.00	0	0	3000	0	0	240
SVOC	Hexachlorobenzene	SO	15	mg/kg	<0.014	<0.016	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.96	0	0	0.21
SVOC	Hexachlorobutadiene	SO	15	mg/kg	<0.0097	<0.011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	5.3	0	0	1.2
SVOC	Hexachlorocyclopentadiene	SO	15	mg/kg	<0.022	<0.024	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.75	0	0	0.18
SVOC	Hexachloroethane	SO	15	mg/kg	<0.013	<0.014	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	8	0	0	1.8
SVOC	Indeno[1,2,3-cd]pyrene	SO	15	mg/kg	<0.023	<0.026	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	2.9	0	0	0.16
SVOC	Isophorone	SO	15	mg/kg	<0.0074	<0.0084	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	2400	0	0	570
SVOC	Naphthalene	SO	15	mg/kg	<0.0088	<0.0099	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	17	0	0	3.8
SVOC	Nitrobenzene	SO	15	mg/kg	<0.011	<0.012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	22	0	0	5.1
SVOC	N-Nitrosodi-n-propylamine	SO	15	mg/kg	<0.012	<0.013	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0.33	0	0	0.078	
SVOC	N-Nitrosodiphenylamine	SO	15	mg/kg	<0.031	<0.035	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	470	0	0	110	
SVOC	Pentachlorophenol	SO	15	mg/kg	<0.042	<0.047	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	4	0	0	1	
SVOC	Phenanthrene	SO	15	mg/kg	<0.0092	0.0098	n.d.	n.d.	n.d.	n.d.	n.d.	0.01	1	6.67	-	-	-	-	-	-
SVOC	Phenol	SO	15	mg/kg	<0.011	<0.013	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	25000	0	0	1900
SVOC	Pyrene	SO	15	mg/kg	<0.016	<0.018	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	2300	0	0	180
VOC	1,1,1-Trichloroethane	SO	15	mg/kg	<0.0003	<0.00044	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	3600	0	0	810
VOC	1,1,2,2-Tetrachloroethane	SO	15	mg/kg	<0.00013	<0.0002	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0.00	0	2.7	0	0	0.6	
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	SO	15	mg/kg	<0.00035	<0.00051	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	17000	0	0	4000
VOC	1,1,2-Trichloroethane	SO	15	mg/kg	<0.00022	<0.00032	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0.63	0	0	0	0.15	
VOC	1,1-Dichloroethane	SO	15	mg/kg	<0.00027	<0.00039	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	16	0	0	3.6	

**Table 6. Summary of Frequency of Exceedances in Borrow Pit Area Soil, Columbia Falls Aluminum Company  
Columbia Falls, MT**

Group	Determinant	Matrix	No. of Results	Unit	Min	Max	Mean	Median	Standard Deviation	5th Percentile	95th Percentile	# > LOD	% > LOD	RSL IND SOIL		RSL RES SOIL			
														No. Exceeding	% Exceeding	Action Level			
VOC	1,1-Dichloroethene	SO	15	mg/kg	<0.00032	<0.00047	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	100		
VOC	1,2,3-Trichlorobenzene	SO	15	mg/kg	<8.7E-05	<0.00013	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	93		
VOC	1,2,4-Trichlorobenzene	SO	15	mg/kg	<0.00025	<0.00037	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	26		
VOC	1,2-Dibromo-3-Chloropropane	SO	15	mg/kg	<0.00037	<0.00054	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.064		
VOC	1,2-Dichlorobenzene	SO	15	mg/kg	<0.00011	<0.00016	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.0053		
VOC	1,2-Dichloroethane	SO	15	mg/kg	<8.7E-05	<0.00013	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	180		
VOC	1,2-Dichloropropane	SO	15	mg/kg	<0.00013	<0.0002	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.46		
VOC	1,3-Dichlorobenzene	SO	15	mg/kg	<9.5E-05	<0.00014	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	1		
VOC	1,4-Dichlorobenzene	SO	15	mg/kg	<0.0001	<0.00015	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	-		
VOC	2-Butanone (MEK)	SO	15	mg/kg	<0.00061	0.0048	0.0015	0.0017	0.002	n.d.	0.004	8	53.3	0	0	0	2700		
VOC	2-Hexanone	SO	15	mg/kg	<0.00074	<0.0011	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	20		
VOC	4-Methyl-2-pentanone (MIBK)	SO	15	mg/kg	<0.0018	<0.0026	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	3300		
VOC	Acetone	SO	15	mg/kg	0.0083	0.086	0.0318	0.033	0.021	0.009	0.069	15	100	0.00	0	0	6100		
VOC	Benzene	SO	15	mg/kg	<0.00016	0.0011	n.d.	n.d.	n.d.	n.d.	n.d.	1	6.67	0	0	0	1.2		
VOC	Bromoform	SO	15	mg/kg	<0.0001	<0.00015	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	19		
VOC	Bromomethane	SO	15	mg/kg	<0.00025	<0.00037	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.68		
VOC	Carbon disulfide	SO	15	mg/kg	<0.00034	<0.0005	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	77		
VOC	Carbon tetrachloride	SO	15	mg/kg	<0.00034	<0.0005	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0.00	0	0	0.65		
VOC	Chlorobenzene	SO	15	mg/kg	<0.00011	<0.00016	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	28		
VOC	Chlorobromomethane	SO	15	mg/kg	<0.00013	<0.0002	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	15		
VOC	Chlorodibromomethane	SO	15	mg/kg	<0.00012	<0.00017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	8.3		
VOC	Chloroethane	SO	15	mg/kg	<0.00028	<0.0004	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	1400		
VOC	Chloroform	SO	15	mg/kg	<0.00017	<0.00024	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.32		
VOC	Chloromethane	SO	15	mg/kg	<0.0003	<0.00044	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	11		
VOC	cis-1,2-Dichloroethene	SO	15	mg/kg	<0.00017	<0.00025	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	16		
VOC	cis-1,3-Dichloropropene	SO	15	mg/kg	<0.00012	<0.00017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	-		
VOC	Cyclohexane	SO	15	mg/kg	<0.00036	0.0017	n.d.	n.d.	n.d.	n.d.	n.d.	1	6.67	0.00	0	0	650		
VOC	Dichlorobromomethane	SO	15	mg/kg	<0.0003	<0.00044	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0.00	0	0	0.29		
VOC	Dichlorodifluoromethane	SO	15	mg/kg	<0.00025	<0.00037	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	8.7		
VOC	Ethylbenzene	SO	15	mg/kg	<0.00014	0.00054	n.d.	n.d.	n.d.	n.d.	n.d.	5E-04	1	6.67	0.00	0	25		
VOC	Ethylene Dibromide	SO	15	mg/kg	<9.5E-05	<0.00014	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	0.036		
VOC	Isopropylbenzene	SO	15	mg/kg	<0.00013	<0.0002	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	190		
VOC	Methyl acetate	SO	15	mg/kg	<0.00071	0.0082	0.00114	n.d.	0.002	n.d.	0.008	4	26.7	0.00	0	120000	0	0	
VOC	Methyl tert-butyl ether	SO	15	mg/kg	<0.00013	<0.0002	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	47		
VOC	Methylcyclohexane	SO	15	mg/kg	<0.00039	0.0041	n.d.	n.d.	n.d.	n.d.	n.d.	2	13.3	-	-	-	-		
VOC	Methylene Chloride	SO	15	mg/kg	<0.00025	0.0019	n.d.	n.d.	n.d.	n.d.	n.d.	1	6.67	0	0	320	0	0	
VOC	m-Xylene & p-Xylene	SO	15	mg/kg	<8.7E-05	0.0026	n.d.	n.d.	n.d.	n.d.	n.d.	0.003	1	6.67	0	0	240	0	0
VOC	o-Xylene	SO	15	mg/kg	<0.00013	0.0008	n.d.	n.d.	n.d.	n.d.	n.d.	8E-04	1	6.67	0	0	280	0	0
VOC	Styrene	SO	15	mg/kg	<0.00012	<0.00017	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	600		
VOC	Tetrachloroethene	SO	15	mg/kg	<0.00022	<0.00032	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	8.1		
VOC	Toluene	SO	15	mg/kg	<0.00015	0.0031	0.00027	n.d.	8E-04	n.d.	0.003	3	20	0	0	4700	0	0	
VOC	trans-1,2-Dichloroethene	SO	15	mg/kg	<0.00031	<0.00045	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	0	490		
VOC	trans-1,3-Dichloropropene	SO	15	mg/kg	<7.9E-05	<0.00012	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	-	-	-	160		
VOC	Trichloroethene	SO	15	mg/kg	<0.00021	<0.0003	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	1.9	0	0	
VOC	Trichlorofluoromethane	SO	15	mg/kg	<0.00027	<0.00039	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0	0	35000	0	0	
VOC	Vinyl chloride	SO	15	mg/kg	<0.00031	<0.00045	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	1.7	0	0	0.059		



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### Legend

- Borrow Pit Test Pit Sample Locations
- Site Boundary
- Borrow Pit Area

100 0 100 200  
Feet

CFTP-17  
CFTP-18  
CFTP-22  
CFTP-23  
CFTP-19  
CFTP-21  
CFTP-20

Title:

### TEST PIT LOCATIONS IN BORROW PIT AREA

2000 ALUMINUM DRIVE  
COLUMBIA FALLS, MONTANA

Prepared For:

COLUMBIA FALLS ALUMINUM COMPANY, LLC

**ROUX**  
ROUX ASSOCIATES, INC.  
Environmental Consulting  
& Management

Compiled by: L.J.	Date: 07DEC16
Prepared by: M.R.	Scale: AS SHOWN
Project Mgr: M.R.	Project: 2476.0001Y000
File: 2476.0001Y152.1	

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